

Univ.	Cluster	Type	Project Name		Technology Description
BYU	MMEE	Licensee	AD-Tec	\$ 40,000.00	The BCS is a patent-pending, low-cost, minimal-maintenance, scalable methane and biomethane filtration solution. The system consists of filter cylinders linked by gas routing hardware. It is completely automated and remote-operable via solid-state electronic controls. The BCS is also pallet-mounted for simplified delivery and installation. The system filters gas to industry-leading standards with a proprietary zeolite. Once saturated, the zeolite is regenerated using an innovative, patent-pending heating system. This intellectual property is being licensed from BYU. The extensive life of the zeolite, minimal energy consumption, low-cost, and top-quality output gas distinguish the BCS from all currently-available competing systems.
U of U	LS	University	ATLAS	\$ 40,000.00	Rehabilitation of lower extremity fractures relies on the ability of patients to repeatedly place a certain percentage of their weight on the injured limb. Studies have shown that patients are unable to do so even when they believe they are compliant. Currently, there are no available monitoring devices that are capable of recording and reporting limb loading between follow up clinical visits. To address this unmet market need we have designed the Ambulatory Tibia Load Analysis System (ATLAS). The ATLAS uses a novel load sensing technology to continuously record limb loading and is coupled with consumer electronics to store and report limb loading.
U of U	LS	University	BioVis	\$ 40,000.00	Visualization tools are essential for deriving meaning from the deluge of data we are faced with today. We design visualization systems that support exploratory, complex data analysis tasks for scientific research. These systems allow scientists to validate their computational models to understand their underlying data in detail, and to develop new hypotheses. We take a problem-driven approach relying on a detailed understanding of the needs of, and a close collaboration with, domain experts to guide the design of algorithms, visual encodings, and interaction mechanisms. Our visualization builds upon principles and methodologies from perception, design, and human-computer interaction, and combines novel mathematical models with algorithms.
U of U	LS	University	Down-Syndrome	\$ 40,000.00	Down syndrome is the major cause of intellectual disability, resulting in a lifetime cost of \$4.5B for the US families. There are currently no cures or treatments. We have identified a molecular target in the brain that, when blocked by antagonists, increases cognitive function in a genetically modified mouse model of Down Syndrome (DS). Our previous work with this class of compounds combined with an improved mouse model of DS suggests that, by testing a set of such compounds carefully chosen to represent the chemical diversity of the larger class, we can be the first to demonstrate proof of concept for the use of this class of molecules in cognitive enhancement in Down Syndrome.
U of U	IT	Licensee	Enclavix	\$ 40,000.00	This project is a core component of ResearchEx™, America's Research Exchange, a Machine Intelligence-based system to help intellectual property (IP) owners, such as universities and companies, automatically assign IP (patents) to a structured IP ontology (framework) to assess the relevance and uniqueness of a patent, and to provide a naturally searchable, online system at ResearchEx.net to match entrepreneurs and businesses with licensable technologies. There are currently no solutions that provide sophisticated, comprehensive information on a patent's relevance in the marketplace and the availability of related or competing IP. Enclavix is licensing a research based semantic network from the Univ. of Utah to take this vision to market.
U of U	LS	University	EndoShield	\$ 40,000.00	The Endoshield is a novel approach to protecting the corneal endothelium during cataract surgery using a solid lens-type barrier. Currently, ophthalmologists inject viscoelastic gels into the eye to protect the cornea and other surrounding tissues but, these materials tend to trap debris and air bubbles which reduce the ophthalmologists visibility during the surgery. During complex cataract surgery, viscoelastics break down and need to be reinjected yet damage to the cornea still often results. In contrast, the Endoshield will not break down under the increased energy needed to break down dense cataracts and its design allows it to float up to the cornea and block thermal energy and debris from damaging the delicate tissues.
U of U	LS	Licensee	Fixes4Kids	\$ 40,000.00	The Fixes4Kids' "Elbow Fix" standardizes the practice of orthopedic surgery on kids' elbows. The technology minimizes surgical error. The F4K system consists of an operating room fixture used to reduce the fracture and a disposable orthotic which replaces a typical cast. Together, this system produces a more efficient and cost effective method for fixing pediatric fractures. The technology standardizes fracture reduction, decreases re-operations and open surgeries, which are costly to the hospital and insurance system. Radiation exposure for the surgeons hands is decreased. The orthotic provides a clinical device than current casting methods improving post-operative vascular assessment.
U of U	LS	Licensee	InsuGen	\$ 40,000.00	Insugen is (IG) patented technology is designed to permanently correct the insulin deficiency in patients with type I & late stage type II diabetes (DM1,DM2), and diabetic dogs and cats. Adult Mesenchymal Stem Cells (MSCs) are engineered into insulin producing cells. Such cells reproduce in culture, are not rejected, and release insulin physiologically when glucose levels change. When used in DM1 animal models, IG s therapy cures DM1. If used in humans, it is expected to restore blood sugar control and eliminate/reverse diabetic complications. Since engineered MSCs are not rejected, they can be obtained from unrelated donors and used off-the-shelf.
U of U	LS	Licensee	Jade	\$ 40,000.00	Jade Therapeutics, has invented a novel, sustained release, biologic eluding, ocular bio resorbable product to address corneal damage and severe dry eye by stimulating cells to proliferate, migrate and heal then defects. In vivo data indicates that the Jade solution can produce corneal epithelial surface repair for non healing corneal defects. This will improve patient compliance, reduce burden of illness, decrease frequency of office visits, and improve visual function with improved quality of life. The therapeutic target is a one week, drug eluding, ocular delivery product to improve the re-epithelization of the corneal surface. No approved therapies exist to heal the cornea. No products in development target a wound healing mechanism.

U of U	LS	University	Laproscope	\$ 40,000.00	We are developing a mobile (wireless) laparoscope (camera used during general surgery or minimally invasive surgery) that transmits an image wirelessly to tablets, displays, and monitors in the operating suite. Existing technology requires a laparoscopic tower, which consists of a light source, recording system, and monitor. Laparoscopic towers can weigh up to 200lbs making it difficult to move in the operating room especially with cords strewn all over the floor. Our technology is different because we are consolidating the laparoscopic tower into a hand held device that eliminates cumbersome wires and connectors. Our mobile system is particularly unique because it will interface with tablets, monitors, and pcs for software integration.
U of U	LS	Licensee	MESO	\$ 40,000.00	Examination of slide mounted tissue sections has been a corner stone of anatomical pathology for over a century and is the primary technique for evaluating and diagnosing tissue samples such as tumors. The MESO System <sup>TM</sup> dissects slide mounted tissue sections at a meso level of resolution (50 microns to 1 millimeter) for further biochemical testing. The MESO system is essentially a precision mill with a disposable bit termed the xScisor that simultaneously dispenses liquid, cuts tissue, and recovers the suspended tissue fragments. This technology is affordable, easy to use, and the only alternative either imprecise manual macrodissection methods and very expensive Laser Capture Microdissection(LCM) equipment.
U of U	LS	University	Segmentation	\$ 40,000.00	We propose a novel method for the segmentation of haematopoietic cells in bone marrow from scanned slide images. A bone marrow evaluation helps to evaluate blood cell production, diagnose leukemia, bone marrow disorder and variety of other types of cancer that may have spread into the marrow. Image segmentation is a difficult and challenging problem due to the complex appearance of these cells. Our method is different from existing approaches. We differentiate clumped cells from single cells so that our circle detection and cell splitting algorithm is only applied to clumped cells. Furthermore, in our method, we eliminate the red blood cells before detecting the haematopoietic cells.
USU	IT	University	Smart-WiFi	\$ 40,000.00	The proposed technology is a high-gain intelligent antenna array to be used for mobile cellular and wi-fi applications. Our technology will enable to develop a reliable wireless network providing the required high data rates for Wi-Fi, LTE and 4G systems. The main advantages are: 1)To cover a service area with much smaller number of base stations and access points provides a significant cost reduction. 2)The battery life of wireless hand-held devices can be extended in multiple folds 3)Our antenna array provides higher gain and significantly better pattern agility with smaller size as compared to the existing arrays. The existing antenna array solutions are either cost or size prohibitive for commercial wireless systems
U of U	IT	University	SmoothCAP	\$ 40,000.00	The motion capture (mocap) suit is worn on the body during movement to collect spatial information from 60 different sensors. This data can then be digitally refined for use in feature film and video game animation in addition to other applications like sports training, physical therapy and research. Our Mocap suit is unique in its ability to capture finger movement, which has traditionally been an obstacle in realistic motion capture. Our suit is more accurate and has more data points than the industry leading inertial motion capture suit (Xsens). Our suit will approach the accuracy of the industry leading camera mocap system (Vicon), and is much cheaper to use, easier to set up, and allows for much greater creative freedom.
WSU	MMEE	Licensee	Torq	\$ 40,000.00	We re-engineer axle and drive train technology for maximum performance. Torq utilizes OEM drive train technology and packages key architectural elements into improved proprietary axle and drive train packages. Our approach allows us to build on existing technology yet make dive train components lighter and stronger. The approach facilitates more efficient vehicle power transmission.
U of U	LS	Licensee	TruClinic	\$ 40,000.00	TruClinic developed an internet portal that provides patients with access to healthcare providers through a user-friendly virtual clinic that simulates an in-person office experience via webcam allowing for 24/7 patient access from a remote location through a secure desktop connection that meets federal standards. Service models include: psychotherapy (TruClinic s market entry point), medical and preventive lifestyle counseling, and patient monitoring. Our competitive advantage is that the portal is accessible to networks of healthcare service providers (third party providers, private practices, government services, and consumer advocacy groups); incorporates the largest number of product features; and allows for diverse revenue models.
BYU	LS	Licensee	WaterJet	\$ 40,000.00	Our technology consists of a pain-free, super quiet water drill, a breakthrough in dental care aligned with attracting and retaining more patients. Dentists are seeking minimally invasive, lower cost procedures that enable higher production. The waterjet will increase office production with a net reduction in the use of anesthetics, and substantially improve patient outcome and experience. We accomplish this through the use of a pressurized water stream that is mixed with an abrasive and used to remove cavities instead of a traditional drill. Waterjets are used to cut industrial materials everyday and now that same technology can safely be applied to dentistry.
USU	MMEE	Licensee	WAVE	\$ 40,000.00	USURF, in coordination with WAVE, has developed a wireless energy technology for vehicles. Wireless Power Transfer (WPT), allows vehicles to be charged from infrastructure embedded under the roadway. Because inductively charged vehicles can receive battery charging en route, there is a significant reduction in the required vehicle battery size. Until now, battery size has been the primary impediment towards the successful market penetration of EVs. USURF's Energy Dynamics Laboratory (EDL) is conducting the WPT research. WAVE, a for-profit entity owned partially by USURF, is commercializing EDL s technology and leading the efforts to launch demonstration projects.

U of U	MMEE	Licensee	Xandem	\$ 40,000.00	Xandem's Tomographic Motion Detection (TMD) sensor is unlike any motion detection sensor and provides key new features for building security and automation systems. We surround an area with our low-power wireless transceivers which create a mesh of radio signals within the area. Unlike infrared, video, or thermal, these radio signals see through walls and obstructions and detect any person in the area. Other sensor technologies perform poorly (false alarm, missed detections) in difficult environments like warehouses. Our sensor doesn't false alarm, and can be hidden from view. TMD is, in short, precise, reliable, and undefeatable.
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